

## ORIGINAL ARTICLE

# Patient's Awareness, Knowledge, and Perception Regarding the Risks and Consequences of Surgical Site Infections

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## ABSTRACT

**Introduction:** Surgical site infections (SSIs) are the most common complication following surgery, with reported rates ranging from 5% to 30%.

**Aim and Objectives:** This study aims to find out patient's awareness, knowledge, and perception regarding the risks and consequences of SSIs.

**Materials and Methods:** A structured interview schedule consisting of questions related demographic characteristics and knowledge items related to SSI developed by reviewing literature. A descriptive cross-sectional study was conducted among 250 patients admitted to the Department of General Surgery, IQ City Medical College, Durgapur, West Bengal, who were selected by simple random sampling.

**Results:** Most (82%) of the patient were aware of weak immune system as a risk factor for SSI, 42% of the patient considered malnutrition as a risk, and 63% agreed that large number of visitors increase the risk for SSI. Majority (95%) of the patient answered that doctors are responsible for the prevention of SSI, 93% of patients believed that wearing clean clothes were prevent SSI.

**Conclusion:** Better strategies are needed to promote patient awareness of and engagement in reducing SSI risks and consequences and promoting prevention of SSI.

**Key words:** Hospitalized patients, Immune system, Surgical site infection.

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**Conflicts of interest:** None

## INTRODUCTION

Surgical site infections (SSIs) result in increased length of hospital stay, high costs, and mortality.<sup>[1]</sup> Despite advances in recent years, such as perioperative antibiotic

prophylaxis optimization, screening for and treatment of *Staphylococcus aureus* carriage, and perioperative normothermia,<sup>[2]</sup> and prevention of SSI remains challenging. SSIs are the second most common type of adverse events occurring in hospitalized patients. A surgical wound infection occurs when microorganisms from the skin or environment enter the incision that the surgeon makes through the skin to carry out the operation.<sup>[1]</sup> These infections can develop at any time from 2 to 3 days after surgery until the wound has healed (usually 2 to 3 weeks after the operation).<sup>[3-7]</sup> Patient's knowledge regarding prevention can dramatically decrease the rate of incidence of SSI.<sup>[8]</sup> A prerequisite for patient participation is information and patient learning. Better knowledge of patients regarding prevention is associated with better outcomes. Hence, it is necessary that the patients undergoing surgery have an adequate knowledge regarding SSI. This study aims to find out patient's awareness, knowledge, and perception regarding the risks and consequences of SSIs.

## MATERIALS AND METHODS

This descriptive cross-sectional study was done among 250 post-operative patients admitted to the Department of General Surgery, IQ City Medical College, Durgapur, West Bengal, in 2016–2017. A structured interview schedule consisting of questions related demographic characteristics and knowledge items related to SSI developed by reviewing literature. Regarding the knowledge of SSI, 28 questions were included in the study. Correct response was scored as 1 and incorrect as 0. The content validity of the instrument was established seeking opinion of subject expert. The instrument was translated into local language Bengali and pre-tested on 10 similar patients from the same ward. Necessary modification was done accordingly. The study used random sampling technique. Data were gathered by interview technique. The collected data were reviewed daily for completeness and accuracy. Data were entered into SPSS version 16.0 for statistical. Data analysis was performed using both descriptive and inferential statistics.

## RESULTS

Table 1 reveals that most (82%) of the patient were aware of weak immune system as a risk factor for SSI,

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42% of the patient considered malnutrition as a risk and 63% agreed that large number of visitors increase the risk for SSI. Majority (84%) of answered that the drainage from the incision area is a symptom of SSI, 79% responded with foul odor coming from incision area, and 56% of patient answered that swelling in the incision. Table 2 illustrates that majority (95%) of the patient answered that doctors are responsible for the prevention of SSI, 93% of patients believed that wearing cleans clothes were prevented SSI. Most (85%) of patients answered that environmental cleanliness helps to prevent SSI. 86% of patient believed that health personnel should wash hands before and after wound care.

**Table 1:** Patient's awareness, knowledge, and perception regarding SSI

Correct response	Percentage
<b>Risk factors</b>	
Weak immune system	82
Malnutrition	42
Large number of visitors	63
Smoking	61
Diabetes	38
Obesity	52
Increasing age	19
Prolong hospitalization	6
<b>Symptoms of SSI</b>	
Pain or severe tenderness in the area of incision site	75
Swelling in the incision area	56
Redness around incision area	34
Foul odor coming from the incision area	79
Drainage from the incision site	84
Fever and malaise	26
SSI: Surgical site infection	

**Table 2:** Patient's awareness, knowledge, and perception regarding prevention of SSI

Correct response	Percentage
<b>Prevention of SSI</b>	
SSI is preventable	74
<b>Persons responsible for prevention are:</b>	
Doctors	95
Nurses	74
Patients	75
Visitors	63
Cleaners	79
Pre-operative bathing	42
Hand washing before and after handling the wound	86
Environmental cleanliness	85
Early mobilization and exercise	67
Protein and vitamin rich diet	42
Wearing clean clothes	93
SSI: Surgical site infection	

## DISCUSSION

Regarding the risk factors, 61% of the patient agreed that smoking increases the risk which is lower in comparison to the study done in the USA that stated 76% of patients knew that smoking increases the risk of SSI.<sup>[9]</sup> This is probably because the respondents in that study were all literates. A descriptive study in France revealed that 80% of patients stated that during their hospitalization they had received no information regarding SSI.<sup>[10]</sup> Similar to this study also revealed that 74% of patients had gained no information regarding SSI. The study conducted in USA, 92% of patients were aware of SSI manifestations and adverse co-nsequences.<sup>[11]</sup> Similarly, to that, this study also reveals that patients have better knowledge regarding SSI manifestation. A study carried out in University of Virginia Medical center, USA stated that 83% of the patients believed that a SSI could be prevented.<sup>[12]</sup> Whereas the study revealed that 53% of the patients believed that a SSI could be prevented.

## CONCLUSION

Better strategies are needed to promote patient awareness of and engagement in reducing SSI risks and consequences and promoting prevention of SSI. Future studies should examine interventions to promote awareness and engagement in diverse populations and should address whether or not increased awareness is associated with lower risk of SSI.

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